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ABSTRACT

Presented is background information and activities that deal with human population dynamics. Using Hawaii as an example, the unit explores population trends, demographic concepts, and some societal implications of population growth. Among the related activities provided are a crossword puzzle, graphing exercise, debate topics, and small group problem-solving experiences. Also included are suggested creative activities, a glossary, and descriptions of reference materials. (WB)

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POPULATION AND HAWAII:

A CASE STUDY

POPULATION REFERENCE BUREAU, INC.

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TO THE READER

GOAL

To enable the reader to understand: how populations change; the consequences of population change for individuals, families, societies, and the environment; and the complexity of developing policies to deal with problems associated with population change.

OBJECTIVES

Through reading, written work, small group and class discussion, out-of-class research, creative projects, role playing, debates, analysis of graphs, charts, photographs, and cartoons, and through other activities, the reader will:

- acquire a demographic understanding and vocabulary which can be demonstrated in written and oral work
- demonstrate an understanding of the components of population change in Hawaii and how these components are similar and dissimilar to other areas of the world
- describe the relevance of population change to one's future well-being
- identify one's own population-related behavior, in one's personal life and one's political life
- gain practice in political decision-making for good citizenship
- propose and evaluate population-related policies involved in planning for the future
- appreciate the variety of viewpoints possible in discussing complex issues such as population planning
- identify benefits, drawbacks, and important issues which may arise as societies attempt to influence population change
- acknowledge the role of values, priorities and "trade offs" in making and assessing political decisions
- express feelings about population change, the future as it relates to population change, and proposed population policies.

CONTENTS

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- True or False?
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- It's Debatable!
- Essay Questions: "Canned Aloha" and Hanalei Bridge
- Creative Activities
- Research Ideas
- For Further Reading

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POPULATION AND HAWAII: A CASE STUDY

"There they lie, the divine islands, forever shining in the sun, forever smiling out on the sparkling sea, with its soft mottlings of drifting cloud shadows and vagrant cat's paws of wind; forever inviting you, never repulsing you . . . always present and always fresh . . ."

—*Mark Twain's Letters from Hawaii.* Edited by A. Grove Day, Appleton-Century

The islands of Hawaii may well lie forever shining in the sun. But if Mark Twain could return today, would he still find the islands "forever inviting you, never repulsing you"? There have been many changes.

Hawaii shares with the rest of the U.S. and with every country in the world a set of population phenomena. It has a population history. Its growth comes from the differences between births and deaths, in-migrants and out-migrants. Its people are distributed in patterns over its land surface. Its population is composed of various proportions of ages, genders, and ethnic groups. Its people vary in terms of income, occupation, education, and even family size. As the common features of eyes, nose, and mouth combine to produce a unique individual face, Hawaii's mix of demographic elements creates its own unique population profile.

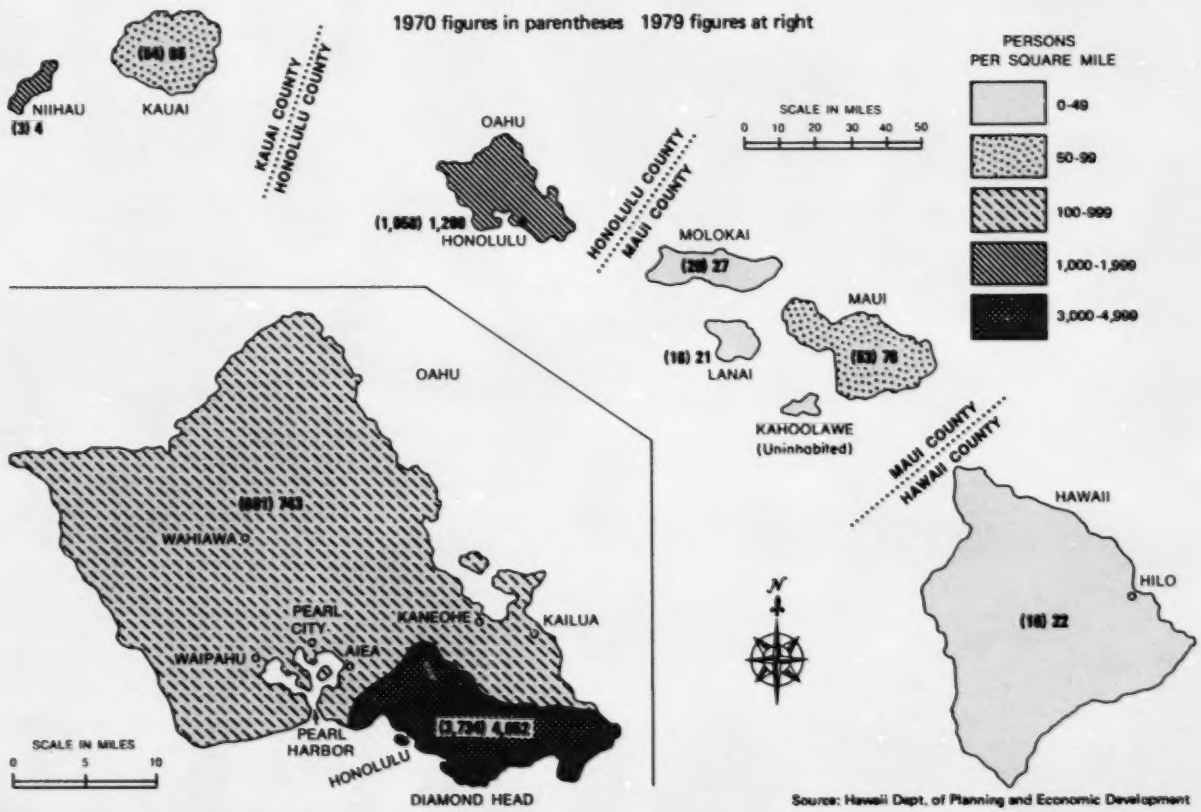
Problems

In many states, and in other parts of the world, population trends often present problems. According to a survey taken in 1977, the majority of Hawaii's residents believe that economic development and population growth are occurring too rapidly.[1] In particular, people are concerned about declining water reserves, the conversion of food-producing land to shopping centers and condominiums, and overuse of beaches, parks, and wilderness areas. En-

Note: Please see Glossary at end of essay for definition of terms.

Figure 1

POPULATION DENSITY BY ISLAND, HAWAII, 1970 AND 1979



Source: Hawaii Dept. of Planning and Economic Development

vironmentalists are worried about the loss of native plants and animals which, once gone, can never be replaced.

Other areas of concern associated with population growth in Hawaii include unemployment, the rising cost of living, dependency on the outside world for 80 percent of its goods, and social tensions. Most population growth (part of which is due to net migration) is occurring among the Caucasians, Filipinos, and part-Hawaiians. Moreover, additions to the population usually fall in the wealthy or poor categories, with little growth of the middle class. The results are a demand for housing by the wealthy, which drives prices up, and an increase in government assistance to the needy, which means higher taxes. Tensions among ethnic and economic groups are sometimes increased during political discussions of how to control population growth, as people wonder "who is controlling whom?"

The State of the State

Hawaii is not a large state in terms of actual numbers of people. In fact, it ranks 40th in population. Its 1979 population was estimated at 914,800. However, its rate of growth during the 1970s (1.8 percent per year) was twice as fast as for the nation as a whole. Even that fact hides the real population growth of Hawaii. It plays host to about four million tourists each year. On any given day the population is actually over 100,000 greater than the official number. If one includes the visitor population in calculating the growth rate, it would be 2.6 percent. At that rate, the population of the state would double in only 27 years.

It is on Oahu that population size and growth pose the most serious problems—at least for the time being. Oahu contains 9 percent of the state's land, but approximately 80 percent of its people. Recently the Neighbor Islands have experienced more rapid growth than Oahu, but because their populations were smaller to begin with, the actual numbers of people added to their populations have not been as large as on Oahu.

Population Dynamics

In Hawaii—or any other place in the world—population change occurs because of the differences between those entering the place through birth or in-migration and those leaving it through death or out-migration. For any given time period, one could calculate the change with the formula on the next page, entitled *Components of Population Change*.

In the last decade about three-fourths of Hawaii's growth was the result of natural increase and the rest a result of net migration. However, a large part of the state population (over 13 percent) consists of military personnel and their dependents. Since many of them are young and in the prime childbearing years, their children born in Hawaii inflate the birth rate considerably. After a short term of

Population Doubling Times

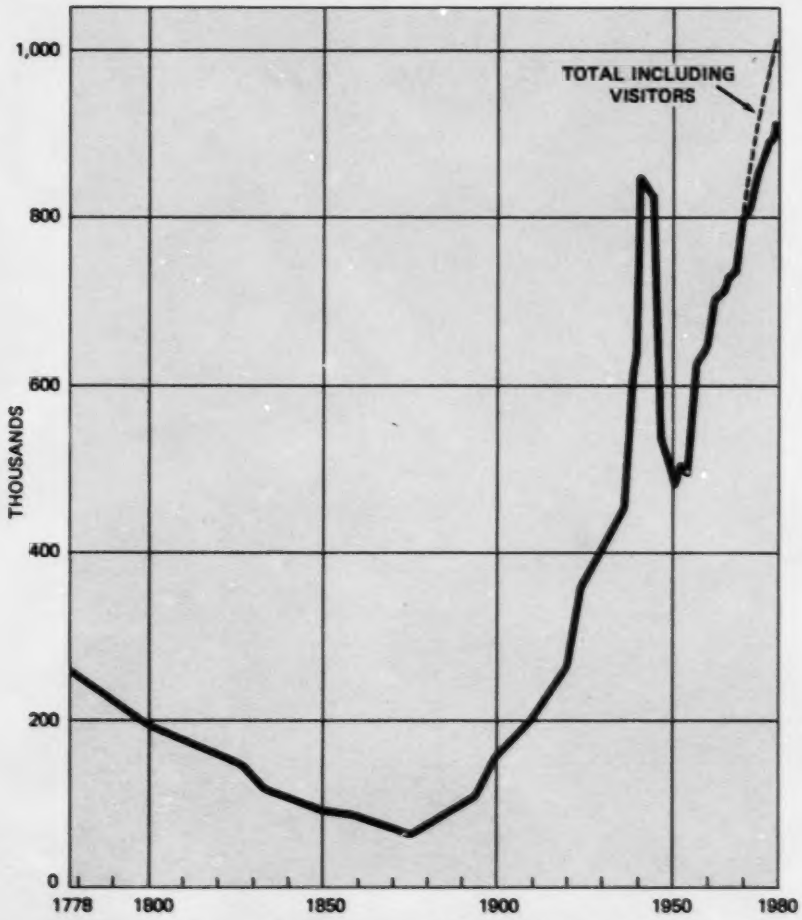
A quick way to figure out how long it will take a population to double is to divide 70 by the growth rate. Thus, a population that is growing 1% per year will double in 70 years (70 ÷ 1 = 70).

Rate of Growth Per Year*		Years to Double
World	1.8%	38 years
U.S.	.9	81
Hawaii	1.8	38
City & County of Honolulu	1.6	43
Hawaii Co.	2.9	24
Kauai Co.	1.9	37
Maui Co.	3.5	20

*At the 1970-1978 rate.

Figure 2

GROWTH OF THE POPULATION OF HAWAII 1788-1979



Source: *Report of the Temporary Commission on Population Stabilization* (Honolulu, January, 1972); *The State of Hawaii Data Book, 1979*, Dept. of Planning and Economic Development (DPED) and DPED published estimates

residence, however, they leave with their children which then reduces the net migration rate. Both of these factors distort Hawaii's population statistics. If military-related personnel are excluded from the total population, the population figures are quite different: the annual growth rate becomes 2.1 percent—55 percent due to natural increase and 45 percent due to net migration.

The military presence also changes the proportion each ethnic group represents in the total population. Consider the differences shown in Table 1 when the military population is excluded. The Japanese then represent the largest single group in Hawaii as opposed to the Caucasians who are first when the military are included.

Immigration and fertility are not entirely separate categories. Since most immigrants are young, there are greater numbers of births among this group than deaths. Therefore, they cause an increase in the birth rate. This means that high net migration is directly responsible for almost half of all population growth in Hawaii and indirectly for some of the natural increase.

The size of the natural increase is itself more of a reflection of Hawaii's youthful age structure than of large families (see Figure 3). The estimated average number of children per family in 1978 was about 2.2.* This is higher than the U.S. average of 1.8, but very close to replacement level fertility of 2.1 children per family.

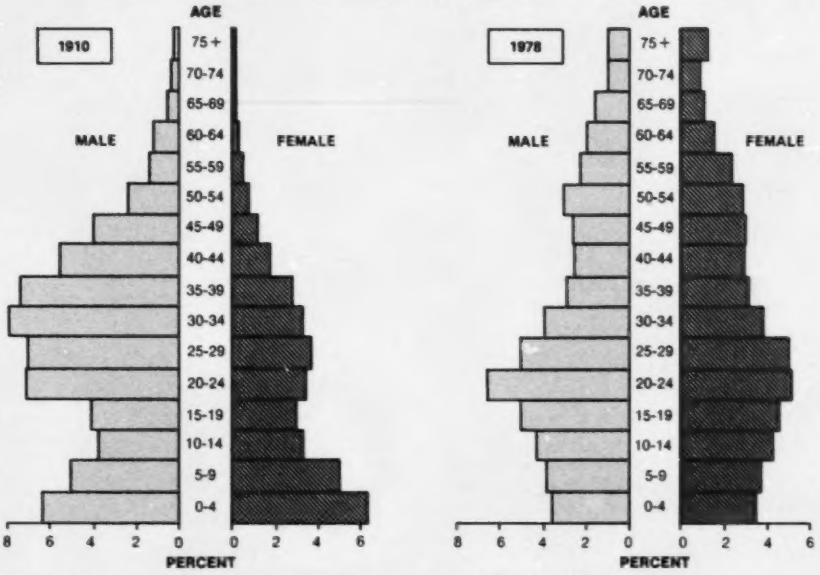
If fertility in Hawaii is relatively low, why then are there so many births? When a large proportion of people in a state or country is young, then there will be more people in the childbearing years than if there were more people in the older ages. Even if these young people have only one or two children, there are so many of them that they produce more births than there are deaths in the state, resulting in natural increase. This is sometimes called the momentum of population growth.

There is no reliable way of estimating what percent of net migration is due to people moving to Hawaii from other states and what percent is from foreign countries. However, in a public opinion survey in 1978, 24 percent of Hawaii's residents said they had been born elsewhere in the U.S. and 13 percent had been born in other countries. Both types of migration contribute substantially to population growth.

*See definition for total fertility rate in Glossary.

Figure 3

AGE-SEX PYRAMIDS, HAWAII, 1910 AND 1978



Source: Robert W. Gardner and Eleanor C. Nordyke, *The Demographic Situation in Hawaii* (Honolulu: East-West Population Institute, 1974) and the Hawaii Health Surveillance Survey, 1978, Hawaii State Dept. of Health

Components of Population Change

Births – Deaths + In-migrants – Out-migrants = Growth (or Decrease)

Natural Increase — Net Migration

Population Policy

The citizens of Hawaii have recognized the need to solve their population problems. The Commission on Population and the Hawaiian Future was created in 1973. Its purpose is to develop effective, acceptable solutions to problems caused by rapid population growth and unbalanced population distribution in Hawaii. In 1978, the Commission issued the following recommendations:

- To achieve within ten years a state population growth rate that does not exceed the national growth rate;
- To attain within 15 years a zero net migration rate;
- To maintain the total fertility rate at or below replacement level;
- To encourage proportionate redistribution of the population to the Neighbor Islands (excluding Oahu).[2]

These goals, if achieved, will bring about zero population growth. Achieving them, however, is a different story. One can slow or halt population growth in Hawaii in only four ways: 1) raise the death rate; 2) reduce the birth rate; 3) reduce in-migration from the mainland; 4) reduce immigration from foreign countries. Clearly, raising the death rate is not desirable.

Fertility

The total fertility rate for Hawaii is already close to the replacement level; to bring it below that level would mean changing those values and behaviors that would lead eventually to a decrease in the resident population. Some people

Table 1. Ethnic Composition of Hawaii's Population, 1978

Ethnic Stock	Total Population		Population Excluding Armed Forces and Military Dependents	
	Number	Percent	Number	Percent
Caucasian	226,180	26.2	162,650	21.1
Japanese	216,964	25.2	214,063	27.8
Hawaiian/ part-Hawaiian	170,001	19.7	167,652	21.7
Filipino	83,862	9.7	79,073	10.3
Chinese	35,939	4.2	35,562	4.6
Korean	9,633	1.1	8,859	1.1
Black	9,078	1.1	2,530	0.3
Samoan	8,034	0.9	7,644	1.0
Puerto Rican	5,469	0.6	5,417	0.7
Mixed, Other, or Unknown	96,925	11.3	87,863	11.4
Total	862,085	100.0	771,313	100.0

Source: Hawaii, Department of Planning and Economic Development, *State of Hawaii Data Book, 1979; A Statistical Analysis* (Honolulu, 1979), p. 28.

feel uneasy about promoting fertility that is so low the average number of children in a family will not even replace the parents. However, fertility is an even more controversial issue in Hawaii because of the ethnic diversity and the differing fertility between ethnic groups in the state. Table 2 shows that fertility is very low among Caucasian, Japanese, and Chinese groups, but high among Filipinos and Hawaiians who make up one-fourth of the population.

Table 2. Ethnic Fertility in Hawaii, 1975

	Total Fertility Rate
Caucasian	2.0 births per woman
Japanese	1.4
Full/Part Hawaiian	2.9
Filipino	3.8
Chinese	1.9

Source: Eleanor Nordyke, "Ethnic Fertility in Hawaii," forthcoming publication.

In-migration

While there are no precise figures, migration flows to and from the mainland are known to be large—possibly as large as 45,000 per year. Hawaii adds a few thousand Mainlanders to its population each year, and the state government could balance that by encouraging a similar amount of out-migration. However, policies to encourage Hawaii's residents to leave are probably as unacceptable as raising the death rate as a means of slowing population growth.

Attempts to discourage in-migration have run into legal barriers, however. In 1977, the constitutionality of a state law requiring at least one year of residency before being eligible for public employment was challenged in court. The following year, the legislature changed the law so that an applicant for a state position only had to be a resident of Hawaii at the time he or she applied for the job. The current legal view is that any law specifically intended to discriminate against certain groups of people will be ruled unconstitutional. Another worry is that any policy to exclude mainlanders might be considered racist, because the majority of such in-migrants are whites.

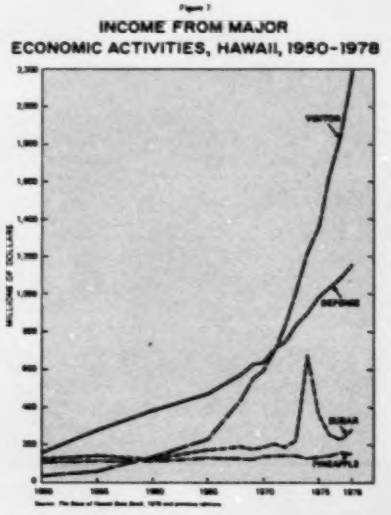
Immigration

Similar legal obstacles exist in limiting immigration from other countries. Immigration policy is set at the national level; individual states have no control over the number or type of immigrants who settle within their boundaries. Recently a task force studying ways to manage growth in Hawaii recommended that the Immigration and Nationality Act be amended so that immigrants are distributed more evenly throughout the U.S. Each state would have an immigration quota in proportion to the total population of the state. Each year immigrants would be received openly in a state until that state's quota is reached. So far, this idea has not been acted upon.

Once immigrants are in the United States, they have the constitutional right to travel or migrate freely. While most immigrants settle in California, Texas, Illinois, and New York, each year roughly 6 to 8 thousand immigrants admitted to the U.S. identify Hawaii as their destination. This may not seem like much in relation to the annual U.S. total of 400,000 immigrants, but added to in-migration from the mainland, it puts pressure on a small island state. The pressures are particularly great in the Honolulu area where most migrants move and where housing and jobs are already in short supply.

The Indirect Approach

A study made by the Department of Planning and Economic Development in Hawaii suggests that economic growth in general and tourism growth in particular are the principal determinants of population growth in Hawaii.[3] Could both be controlled? One obstacle is the fact that economic growth generates additional tax revenues which help to provide government programs and services. In addition, private projects generate new employment opportunities and help to reduce the unemployment rate.



What Can Be Done?

It seems clear that any one method to limit population growth is difficult to implement because of

legal, racial, or economic obstacles. Perhaps the only successful method would be a comprehensive policy which acts on all areas simultaneously. In this way no one racial or economic group will feel singled out.

Hawaii's residents have expressed a desire to preserve their environment and culture. The Hawaii State Plan which was adopted by the State Legislature in 1978 reflects some of their concerns. With this plan, Hawaii became the first state in the nation to set goals for the future and to decide upon ways of reaching these goals.

The State Plan includes policies to diversify Hawaii's economy, protect agricultural activities, manage population growth so that it does not threaten Hawaii's basic resources, and direct growth to existing urban areas. In addition, twelve plans which require legislative approval are being developed to address specific areas such as agriculture, tourism, transportation and housing. The State Plan with the continued provision of population and environmental education in the schools and family planning information and services for the public could help to preserve the fragile environment and culture of Hawaii. However, sufficient community and political support is needed to accomplish this.

The rest of the nation, and much of the world, will watch with interest as Hawaii tries to shape its preferred future.

References

1. *Population Growth, Policies and Strategies: A Public Opinion Survey* (Commission on Population and the Hawaiian Future, 1977).
2. *Toward a Preferred Future: A Population Strategy* (Commission on Population and the Hawaiian Future, 1978).
3. "Long-Range Population and Economic Simulations and Projections for the State of Hawaii" (Hawaii, Department of Planning and Economic Development, March 1978).

GLOSSARY

AGE STRUCTURE. The composition of a population as determined by the number or proportion of males and females in each category. The age structure of a population is the cumulative result of past trends in fertility, mortality, and migration.

BIRTH RATE (or crude birth rate). The number of births per 1,000 population in a given year. Not to be confused with *growth rate*.

COMPONENTS OF POPULATION CHANGE. Births, deaths, in-migration (or immigration) and out-migration (or emigration).

DEATH RATE (or crude death rate). The number of deaths per 1,000 population in a given year.

DEMOGRAPHY (Greek, *demos* [people] + *graphie* [study]). The scientific study of human populations, including their size, composition, distribution, density, growth, and other demographic and socioeconomic characteristics, and the causes and consequences of changes in these factors.

DOUBLING TIME. The number of years required for a population of an area to double its present size, given the current rate of population growth.

EMIGRATION. The process of leaving one country to take up residence in another.

FERTILITY. The actual reproductive performance of an individual, a couple, a group, or a population.

GROWTH RATE. The rate at which a population is increasing (or decreasing) in a given year due to natural increase and net migration, expressed as a percentage of the base population.

IMMIGRATION. The process of entering one country from another to take up permanent residence.

IN-MIGRATION. The process of entering one administrative subdivision of a country (e.g., county or state) from another subdivision to take up residence.

NATURAL INCREASE. The surplus (or deficit) of births over deaths in a population in a given time period.

NET MIGRATION. The net effect of immigration and emigration on an area's population in a given time period, expressed as increase or decrease.

OUT-MIGRATION. The process of leaving one subdivision of a country to take up residence in another.

POPULATION DENSITY. Population per unit of land area; for example persons per square mile, or per square kilometer of arable land.

POPULATION DISTRIBUTION. The patterns of settlement and dispersal of a population.

POPULATION MOMENTUM. The tendency for population growth to continue beyond the time that replacement level fertility had been achieved because of a relatively high concentration of people in the childbearing years.

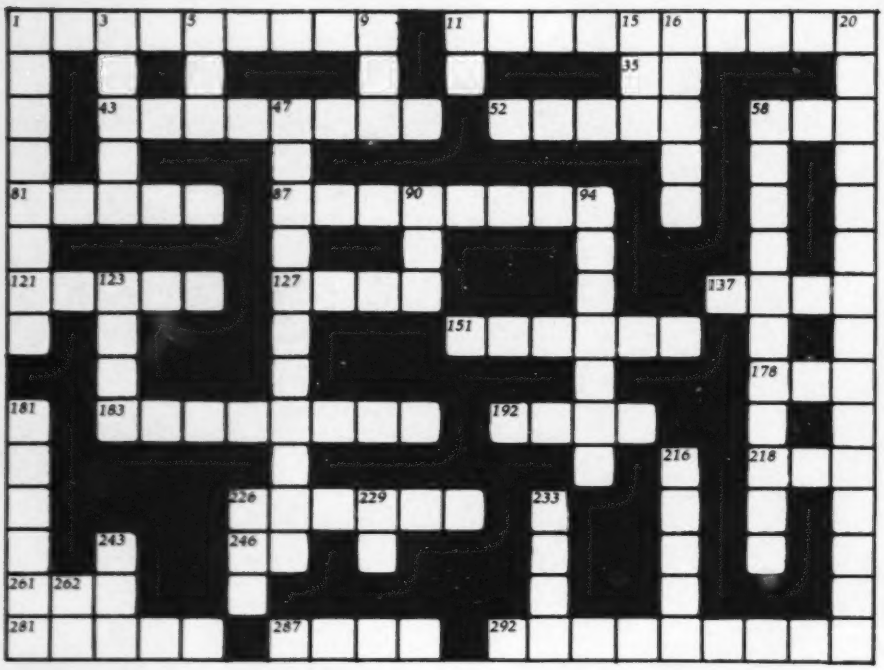
TOTAL FERTILITY RATE (TFR). The average number of children that would be born to a woman during her lifetime if she follows the fertility pattern of a given year. An estimate of average number of children per family in a population.

REPLACEMENT LEVEL FERTILITY. The level of fertility at which couples replace themselves, that is, a total fertility rate of 2.1 children per family (2 children to replace the parents and .1 to account for deaths).

ZERO POPULATION GROWTH. A population in equilibrium, with a growth rate of zero, achieved when births plus immigration equal deaths plus emigration.

Source: Arthur Haupt and Thomas T. Kane, *Population Handbook* (Population Reference Bureau, Inc., Washington, D.C. 1978).

POPULATION PUZZLE



ACROSS

1 People who are descendants of the original inhabitants of Hawaii.

11 The number of people in a city, state, or country.

35 Hello and Goodbye = __ __ oha!

43 The population of Hawaii is increased by approximately 100,000 on any day because of these people.

52 Abbreviation for what has become a popular type of housing in Hawaii.

58 People must __ __ __ to survive.

81 People are __ __ __ __ __ to Hawaii by its beauty and climate.

87 Part of Hawaii's population growth is due to people who migrate from the __ __ __ __ __ __ __ __ __.

121 Honolulu is the __ __ __ __ __ st city in Hawaii.

127 Most of the residents of Hawaii do not want the state to continue to __ __ __ __ rapidly.

137 When a student stands in front of his/her class and gives a report, he/she is giving an __ __ __ __ report.

151 The __ __ __ - __ __ __ composition of a population tells you about the proportion of people in various age categories and the ratio of males to females. It is usually displayed in pyramid form.

178 Some adults are parents and some are __ __ __ parents (prefix).

183 This group of people in Hawaii affects the state's population size, birth and net migration rates, and economy.

192 A statistic that tells how frequently an event is occurring in a period of time (e.g. a birth __ __ __ __ describes how many births occur in a year's time per 1,000 people in the population).

218 Noise pollution is hard on the __ __ __ s.

226 A population __ __ __ __ __ __ is a law or other measure, instituted by a government, which is designed to influence population size, growth, distribution, or composition.

246 Some Hawaii residents say, "We can't go __ __ like this" when speaking of growth.

261 Listen to the waves, __ __ __ ping at the shore.

281 One of Hawaii's major agricultural crops.

287 __ __ __ __graphy is the study of human populations, including their size, composition, and growth.

292 What is used to measure mortality in a population (two words).

DOWN

1 The most populated city in the state of Hawaii.

3 Many of the recreational activities in Hawaii have to do with __ __ __ __ __.

5 When someone lends you money, you give him your __ __ __.

9 Abbreviation for Saturday.

11 Another name for father.

15 A boy.

16 People fear that Hawaii's residents are losing the __ __ __ __ __ spirit.

20 Births minus deaths equals __ (two words).

47 __ __ __ __ __ __ __ __ __ __ __ __ from foreign countries is a major component of Hawaii's population growth.

58 Many people are concerned that continued population growth in Hawaii will ruin its fragile __ __ __ __ __ __ __ __ __ __ __ __ __.

90 When you want something done immediately, you want it done __ __ __.

94 Population __ __ __ __ __ __ __ is a problem on Oahu, but not on the other Hawaiian islands, where the number of people per square mile is much less than the national average.

123 Some people fear that continued population growth will mean not enough __ __ __ __ for everyone.

181 Over the past twenty years, the coast line of Honolulu has changed because of the increase in the number of __ __ __ __ __ __ that have been built.

216 There are almost four times as many __ __ __ __ __s as deaths in Hawaii.

226 Hawaiian food made from taro root.

229 Opposite of out-migration is __ __-migration.

233 Because of the momentum of past population growth, it takes considerable __ __ __ __ to achieve a nongrowing state, even when a low birth rate is maintained.

243 Abbreviation for zero population growth—the balance between births plus immigration and deaths plus emigration.

262 The symbol for the chemical element gold.

MATCHING

Find the description in Column B which most closely matches the item in Column A.

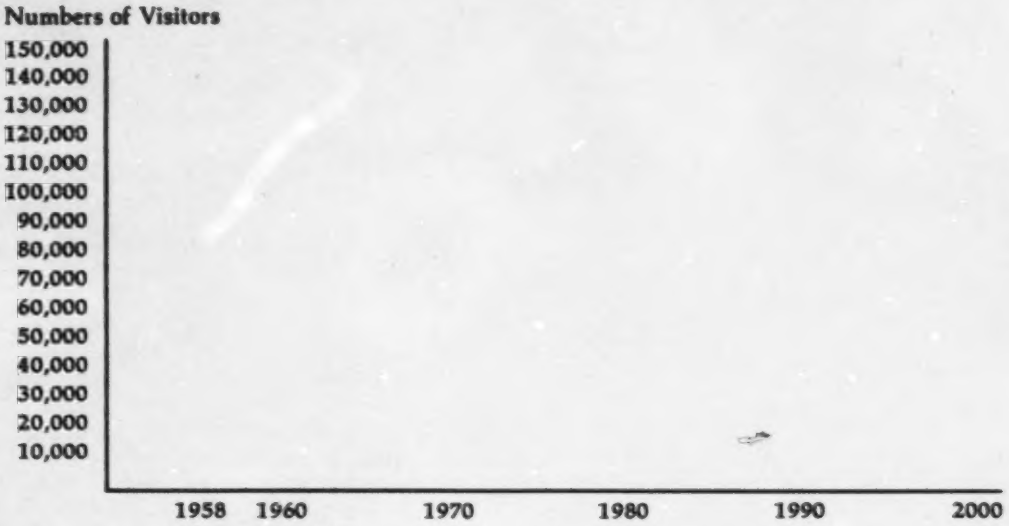
A	B
____ 1. Oahu	a. an estimate of the average number of children per family
____ 2. Niihau	b. the number of people moving to a location
____ 3. natural increase	c. least densely populated of the main islands
____ 4. net migration	d. largest single ethnic group if military are considered
____ 5. total fertility rate	e. once a large ethnic group, now less than 5 percent of Hawaii's population
____ 6. Full/part Hawaiians	f. the combination of births plus in-migration
____ 7. Caucasians	g. the difference between in-migration and out-migration
____ 8. Japanese	h. where most people in Hawaii live
____ 9. Filipinos	i. the difference between births and deaths
____ 10. Chinese	j. largest single ethnic group in Hawaii if military are not considered
	k. 4th largest ethnic group in Hawaii
	l. the birth rate for both urban and rural areas
	m. the group having the oldest history in the islands

TRUE OR FALSE?

For the following statements, circle 'T' for True or 'F' for False.

1. T or F Every city, state or country has a population history, population composition, and population dynamics consisting of births plus in-migration and deaths plus out-migration.
2. T or F The majority of Hawaii's residents believe that rapid economic development and population growth are good for Hawaii.
3. T or F Residents of Hawaii are worried about unemployment, the rising cost of living and social tensions.
4. T or F Additions to Hawaii's population occur mainly in the wealthy or poor classes, with little growth of the middle class.
5. T or F Hawaii's population is growing twice as fast as the total U.S. population.
6. T or F Because of tourism, on any given day the actual population of Hawaii is over 100,000 greater than the official population.
7. T or F Approximately 80 percent of Hawaii's people live on Oahu.
8. T or F When military-related personnel are not included in population statistics, 55 percent of Hawaii's growth is due to natural increase and 45 percent to net migration.
9. T or F Immigration does not have an effect on the birth rate.
10. T or F All ethnic groups in Hawaii have about the same size family.
11. T or F Military families often leave Hawaii with more people than they came with since many have children during their tour of duty.
12. T or F There is no reliable way of knowing what percent of net migration is due to people moving to Hawaii from other states and what percent comes from foreign countries.
13. T or F The density of parts of Honolulu is among the highest in the world.
14. T or F Any law specifically intended to exclude people from Hawaii is likely to be declared unconstitutional.
15. T or F A comprehensive plan to limit population growth by using many approaches is more likely to be successful than concentrating on any single approach.

GRAPHING THE GROWTH OF TOURISM



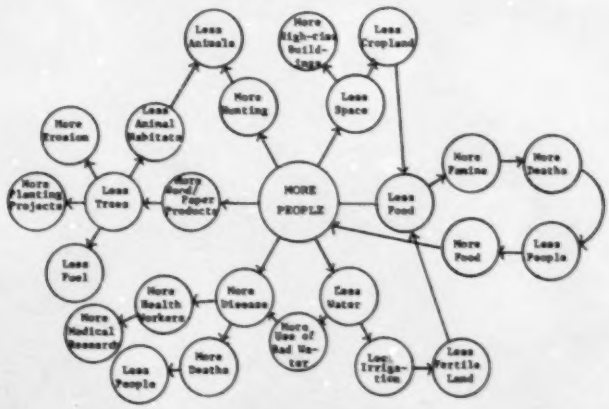
The number of temporary visitors has grown rapidly over the decades. Based on the table below, plot the number of visitors per decade on the graph above. Connect them with a solid line. Use a dotted line to give your estimate of the number of visitors in future decades.

Visitors Present on the Average Day

1958	8,400 visitors
1960	10,800
1970	37,600
1980	100,000
1990	?
2000	?

HAWAII'S FUTURE

Construct a "Future Wheel" specifically for Hawaii, based on the model below. Begin by placing the words "more people" in a circle—the hub of the wheel. Then draw a spoke from that circle and at the end of it put the result of population increase. Continue in this manner with other results and their effects. Be sure to include the components of population growth in Hawaii—tourism, the military, in-migration from the mainland, immigration from foreign countries—and the possible regulations or laws that may result.



Construct your Hawaii Future Wheel on a separate sheet of paper.

WHAT'S YOUR OPINION?

The questions below come from a survey conducted in Hawaii in 1977. Pretend you are one of the people interviewed. How would you answer the following questions? Indicate whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements about population by circling the number in the appropriate column.

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
1. The population in the State is growing too fast.	1	2	3	4
2. We already have enough people in the State right now.	1	2	3	4
3. Population growth in the State brings more jobs for Hawaii residents.	1	2	3	4
4. The State should take direct action to discourage and limit population [growth] in Hawaii.	1	2	3	4

Now turn to the next page and see how your answers compare with those of the respondents to the original survey.

SMALL GROUP ACTIVITIES

Divide into groups of about five people. Elect one person who will take notes on the discussion and one who will report the votes of the group to the entire class. Discuss the following questions and then decide on your answers. Spend about ten minutes on each question.

1. The only ways to slow and eventually stop population growth in Hawaii are to: 1) reduce the number of births; 2) limit in-migration from the mainland; and 3) limit immigration from foreign countries.
   a. Should the government of Hawaii have a goal of reducing births? How might it do this? What are the advantages and disadvantages of this approach?
   b. Should the state of Hawaii try to discourage mainland people from migrating to Hawaii? If so, how?
   c. Should steps be taken to discourage immigration to Hawaii from other countries? How?

2. What do you think are the five chief problems associated with continued population growth in Hawaii? Consider problems in many categories, such as environmental, recreational, economic, and ethnic problems.

   The five chief problems are:

   1. _____
   2. _____
   3. _____
   4. _____
   5. _____

   Briefly describe why those problems were chosen and what are some of the possible solutions to them.

Residents' Concern About Population Growth and Level Results For Each County

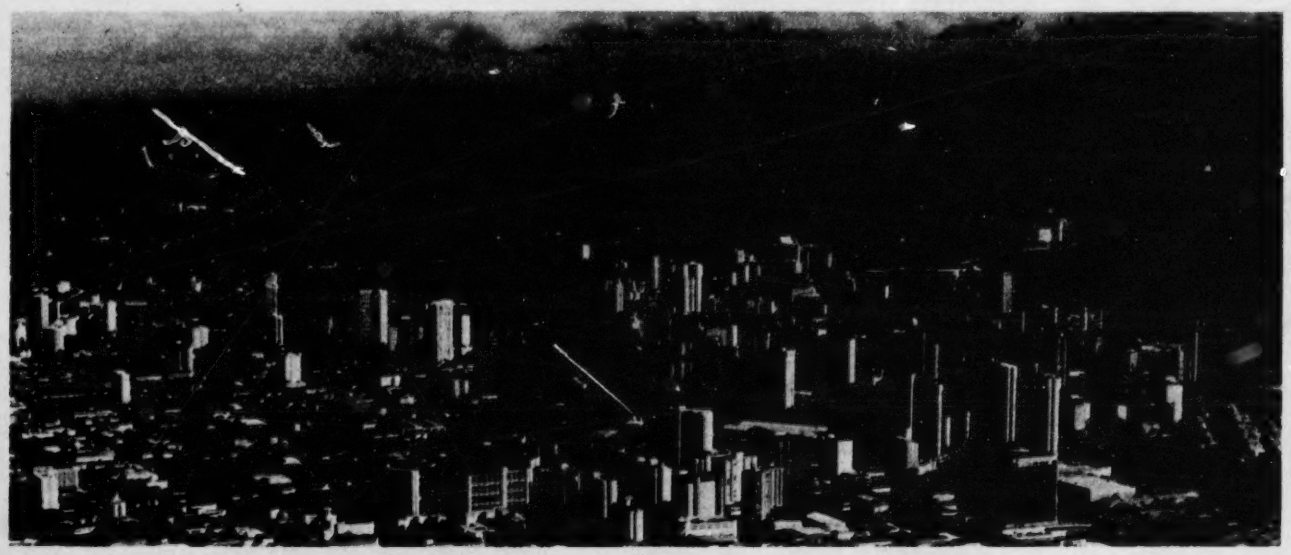
Percent who agree strongly or somewhat with each statement:	Oahu	Maui	Kauai	Hawaii
1. The population of the State is growing too fast.	91%	90%	86%	71%
2. We already have enough people living in the State right now.	80	87	83	73
2. Population growth in the State brings more jobs for Hawaii residents.	18	47	24	34
4. The State should take direct action to limit population [growth] in Hawaii.	76	78	80	70

Source: *Population Growth, Policies and Strategies: A Public Opinion Survey* (Commission on Population and the Hawaiian Future, 1977).

FOR CLASS DISCUSSION

Discuss with your class the following questions.

1. Why is Hawaii a good case study for population issues? What does it have in common with other locations? How is it unique?
2. One hears a great deal about the "aloha spirit" in Hawaii, that gracious, welcoming attitude of the islanders toward strangers and each other. Why is it in danger of being lost? Has this happened in other places? Give examples. What conditions do you think are favorable to a friendly atmosphere among people?
3. Petaluma, a city in California, won the right to control its growth through a Supreme Court decision. Now the city issues only a certain number of building permits per year. Would this strategy work in Hawaii? Who would favor it? Who would oppose it? What would be the benefits and drawbacks?
4. In the early part of this century large numbers of male laborers were brought to Hawaii from other nations to work in the sugar cane fields. How does the 1910 age-sex pyramid in Figure 3 reflect this immigration?



Parts of Honolulu rank among the most densely populated cities of the world. What are some of the negative effects of this high density? Give several examples. What are some of the positive aspects of high density?

In Hawaii a very small number of people and companies own the vast majority of all privately-owned land. How does this fact affect the patterns of land development?

thomas h. creighton

Limits on population urged

THE BIGGEST argument against controlling population is that an economic bind would result. Actually, many of us would be very happy if the economy would level off at its present stage—if we would stop bringing more people here from the Mainland and from abroad, and even off our own growth in people—so that there would not be the need to build more, to make more money, to provide more jobs, to continually increase the islands' economic growth.

All of these arguments are evading the real issue, which is that no future is possible without limiting the number of people who will use the land. Limit, not slow. To slow population growth is simply to moderate its continuing increase. To limit it, on the other hand, is to set bounds to its final measure. Hawaii's land surface is limited geographically; the population that the state can care for must also, then, be limited.

I would love to see Hawaii take an advanced position in relation to land use, again, and go to the Supreme Court, if necessary, on this issue. Not with the economic argument that Ariyoshi has suggested using—that too many people cost the States too much money. But rather on the environmental issue: don't cause this country's Pacific island state to commit ecological suicide in order to accommodate a continually increasing number of people.

TO WIN THIS argument (as some Mainland municipalities have thus far won their growth arguments) we would have to have a plan. Not couched in general, vague terms as the state's general plan so far is, but a specific land-use plan that can be developed and utilized. An environmental plan dividing the state into irreversible types of land for its various uses, not carving it up, as at present, into categories that can be changed at the will of the State Land Use Commission. A plan that really shows what the land is best used for.

Then let's develop our argument and carry it to the Supreme Court if need be. Let's have the administration and the Legislature really face facts instead of talking generalities. In the meantime, our population is continuing to grow.

Reprinted with permission of *The Sunday Star-Bulletin & Advertiser*. This is an excerpt of the original editorial that appeared in the June 24, 1979 issue.

Write a letter to the editor giving your response to this editorial. Indicate whether you agree or disagree with the author's point of view.

IT'S DEBATABLE!

Resolved: The U.S. should accept the recommendation of the State of Hawaii's Growth Management Task Force concerning immigration. Each state should be assigned an immigrant quota in proportion to the total population of the state, and each year immigrants should be received openly in a state until the quota is reached.

Resolved: Tourism in Hawaii should be reduced.

Resolved: The government of Hawaii should encourage tourism and resort development on the Neighbor Islands to reduce unemployment.

Resolved: The military presence in Hawaii should be reduced.

ESSAY QUESTIONS

Put into your own words the situation this "advertisement" describes. Do you agree or disagree with the feelings expressed? Should such "ads" be distributed on the mainland? Explain.

DON'T BUY

please don't visit Hawaii

unt'l we are able to save what's left! Resort-travel-land interests are ruining us - and our islands - to get your money. Prices, taxes soar; wages diminish. You can't buy ALOHA!

HAWAII RESIDENTS BUREAU

On the small Hawaiian island of Kauai, a rusting one-lane bridge (erected in 1912) crosses the Hanalei River at the entrance to the lush Hanalei Valley. People fighting to preserve this agricultural valley have persuaded, at least temporarily, the state transportation department to repair the bridge rather than to replace it with a modern, two-lane span. This prevents the intrusion of resort developers and homebuilders who are unable to haul heavy equipment and supplies into Hanalei. It also prevents the entry of tour-bus operations because the bridge is too narrow for the big buses to cross. Finally, it keeps land prices stable.

Do you agree with the idea of keeping a one-lane bridge over the Hanalei River? Explain. Would your position change if you were a farmer or other landowner who wanted to sell his or her land at the best price, or if you were a developer, homebuilder or tour-bus operator? What would be your position then?

CREATIVE ACTIVITIES

1. Draw your own family tree, going back at least two generations. Label each person's place of birth and ethnic group. Describe how your family's migration history and ethnic groups are reflected in your neighborhood's present make-up. Use personal observation of your neighborhood to identify major ethnic groups or, to be more statistical, obtain neighborhood information (even by the city block) from your regional U.S. Commerce Office's branch of the Census Bureau.
2. Create a game or demonstration that illustrates how population growth in Hawaii (or anywhere) is the difference between births plus immigration and deaths plus emigration. For example, mark ping-pong balls to represent births and deaths, and immigration and emigration. Fill a clear container with enough plain ping-pong balls to represent the current population. Then add and subtract the marked ping-pong balls to show how population will change in one year.
3. Create a film, slide program, collage, or photo display on population change in Hawaii with accompanying script or labels. This is a good activity for a group.
4. Create a drawing, painting, or political cartoon with a population theme.
5. Create an outline for a movie script that deals with population issues in Hawaii in either a humorous or serious way.
6. Write an article about a population-related problem in Hawaii as if you were a newspaper reporter.

RESEARCH IDEAS

Research one of the following topics as it applies to the situation in Hawaii:

- population growth and pollution
- population growth and national resources
- population growth and wilderness and recreational areas
- population growth and plant and wildlife habitat
- population growth and agricultural land
- population growth and water supply
- population growth and land use
- population growth and housing
- population growth and jobs
- population growth and urbanization
- the demographic and economic situation in one of the foreign countries that is the original home of immigrants to Hawaii

FOR FURTHER READING

COMMISSION ON POPULATION AND THE HAWAIIAN FUTURE

550 Halekauwila St., Room 206, Honolulu, Hawaii 96813; (808) 548-2328.

- *Hawaii Population Data Sheet,* 1979. A colorful wall chart describing population change, ethnic composition, health and education, employment and income, land-use and other data. Produced by the Population Reference Bureau.
- *Population and Hawaii: A Case Study,* 1980. Hawaii residents may obtain copies of this module from the CPHF. Others may order it from PRB, using the order form on the back page.
- "Toward a Preferred Future: A Population Strategy," 1978. Brochure.
- "What Hawaii Thinks About Population," 1977. A summary of the report, *Population Growth, Policies and Strategies: A Public Opinion Survey, 1977.* Brochure. Inquire about other materials and audiovisual aids available from this office.

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT, STATE OF HAWAII

Information Office, P.O. Box 2359, Honolulu, Hawaii 96804.

- "Facts and Figures 1980." A series of brochures on the State of Hawaii and on each county.
- *The State of Hawaii Data Book,* issued annually. Contains over 400 tables of statistics on Hawaii's population, economy, environment, etc. $4 each in Hawaii; $5 elsewhere, surface postpaid.

BANK OF HAWAII

Economics Division, P.O. Box 2900, Honolulu, Hawaii 96846.

- *Annual Economic Review* and other publications on the economy, employment, and population of Hawaii.

POPULATION REFERENCE BUREAU, INC.

1337 Connecticut Ave., N.W., Washington, D.C. 20036; (202) 785-4664.

- PRB's educational materials are listed on the back cover; for a complete list of publications, write for a publications order form.
- *World Population Data Sheet,* issued annually. A two-color wall chart with data for 164 countries on birth and death rates, natural increase, doubling times, projections for the year 2000, and many other characteristics. $1 each; 2-49 copies, 75¢ each; 50 copies or more, 50¢ each.
- *Population Bulletins,* 60-page booklets on population topics. Of particular interest to Hawaii studies: *International Migration: Yesterday, Today and Tomorrow; Resources, Environment and Population: The Nature of Future Limits;* and *Our Population Predicament: A New Look.* $2 each; 2-49 copies, $1.75 each; 50 copies or more, $1.50 each.

ADDITIONAL MATERIALS

- *The Peopling of Hawaii* by Eleanor C. Nordyke, 1977, (The University Press of Hawaii, 2840 Kolowalu St., Honolulu, Hawaii 96822). $4.95 paper. The history, current situation, and future directions of population growth and its consequences for Hawaii.
- "To Save a Valley" by Tom Horton in *Historic Preservation,* July/August 1980 (National Trust for Historic Preservation, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036); $1.00. Preserving a one-lane bridge in Kauai is helping to slow development.
- *Shoal of Time* by Gavan Daws, 1968, (The University Press of Hawaii, 2480 Kolowalu St., Honolulu, Hawaii 96822). $6.95 paper. A detailed, colorful description of the people and events which have shaped Hawaii's history.
- "Which Way Oahu?" by Gordon Young in *National Geographic,* Vol. 156, No. 5, November 1979. Is the Honolulu skyline an omen of the future for the rest of Hawaii?

PRB CLASSROOM MATERIALS

TEACHING MODULES

The Cost and Value of American Children, September 1977
Mortality American Style, November 1977
Marriage, Divorce, and Living Together, January 1978
World Population and Beyond, May 1978
Population Density and Mobility in the United States, September 1978
The Future and Population: What Will a No-Growth Society Be Like? December 1978
How America Studies Itself: The U.S. Census, February 1980
Population and Hawaii: A Case Study, November 1980

With the exception of *How America Studies Itself: The U.S. Census* all modules are $1.00 each; two or more, $.75 each. Single copies of *How America Studies Itself* are free; two or more, $.75 each.

OTHER TEACHING MATERIALS

Population and Resources: What About Tomorrow? October 1979
A four-page reading. Single copies, $.25 each; two or more, $.15 each.

Population Education: Sources and Resources, May 1979
A comprehensive annotated listing of population education materials, organizations and audiovisual aids. Single copies, $1.00; two or more, $.75 each.

Charts, data sheets, and other materials: write for complete publications list. List of rental films also available.

The Population Reference Bureau offers educators a special full membership for only $10 if you are a school educator or $15 if you are a college educator. Membership entitles you to over 20 publications per year, including *Interchange*, the population education newsletter which is accompanied by a teaching material; *Intercom*, the population newsmagazine; *Population Bulletins*, in-depth studies of a population topic; and the annual *World Population Data Sheet*.

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